

# Dental condition of schoolchildren in Serbia over a century ago

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## SUMMARY

The exhibition of the legacy of Dr. Svetozar Marković (1860–1916) held at the end of 2009 at the University library Svetozar Marković in Belgrade, drew attention to this significant creator, school doctor, public worker, and the founder of school hygiene in Serbia. He was the founder of *The Association for School Hygiene and National Enlightenment* (1906), the founder and the editor of the magazine *Svetlost* (1908–1914). This work refers only to his findings regarding oral and dental condition of schoolchildren, gathered during the systematic examination of the pupils of the Third Belgrade (Pančić's) Grammar School (classes from I to VIII), during the school years 1903/1904, 1904/05, and 1907/08.

**Key words:** History of Medicine; History, 20th Century; Famous Persons; Physicians; Hygiene; Schools; Oral Health; Serbia Non MeSH Svetozar Marković

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## INTRODUCTION

The period from the beginning of the last century up to the wars (The Balkan Wars and World War I) is mostly untouched by Serbian medical historiography. A recent exhibition of the Dr. Svetozar Marković's legacy (end of 2009) at the *University Library Svetozar Marković* in Belgrade, drew attention to this important, almost forgotten creator, school doctor, social worker, and the founder of the school hygiene in Serbia (1). Born in the village Županjac (1860), county of Kolubara, Svetozar attended high school in Belgrade, contrary to his father's wishes, earning his own living, working as a domestic and enduring hardships. Later on, as an excellent student, he was awarded a state scholarship. Upon his graduation from *The School of Medicine* in Paris (1894), he spent two years specializing in women's diseases and obstetrics and working in private practice. When he returned to Serbia, he was employed as a school doctor in Belgrade. He passed away in 1916 from urosepsis.

In 1901, he was one of the founders of *The Sobriety Society*, whose head was Dr. Jovan Danić, the first Serbian psychiatrist, a longtime editor of the *Serbian Archives*, the right hand to Dr. Vladan Đorđević (2). Miloš Đ. Popović was the founder of the first military dental station in Belgrade (1904) and the author of the first ideas of enlightenment in Serbian language about dentistry ("Dental Care", with images 1904; and "The artificial teeth" with images 1906). Dr. Miloš Đ. Popović later became the founder of Scout Movement in Serbia and after The Great War he became an honorary president of the *Izvidnik i Planinka* in the Kingdom of the Serbs, Croats and Slovenians, later known as the Kingdom of Yugoslavia (3). Svetozar Marković became the head of *The Society for School Hygiene and National Education* in 1906 and established a magazine called *Svetlost* (1908). The foundation of *The Society for School Hygiene and National Education* and the magazine *Svetlost* was largely, forced upon him, considering that the annual medical reports given by Dr. Svetozar Marković, about the terrible state of health and hygiene of the schoolchildren, the relevant ministries did not even look at. Therefore, Marković was forced to print two reports at his own expense – for the academic years 1903/04 and 1904/05 – while the third one – for the 1906/07 school years – was printed at the expense of The Society.

## Data about the state of teeth in schoolchildren, years 1903–1906

The information concerning the state of the mouth and teeth in examined schoolchildren were taken from the printed medical reports of Dr. Svetozar Marković, for years 1903/04, 1904/05, and 1906/07 (4-6). Although the data about the diseases in schoolchildren during these years Marković did not consider accurate because the acquired information was given by some other doctors outside from the school system and (uneducated) parents in order to justify students' absences, rather than a school doctor, and because they were classified by systems (nerve diseases, respiratory, heart and blood vessels, digestive tract, etc). Diagnoses were given in French language.

In the column *Bones and Muscles*, for the school year 1903/04, three cases of dental alveolar abscess were recorded, the same number was in the next school year (1904/05), while in the school year 1906/07 one case was documented only.

The body hygiene was evaluated based on clean nails. In 366 of examined schoolchildren from the *Third Belgrade Grammar School* in 1903/04, 54.37% was found with dirty fingernails. The situation did not improve significantly with the coming generations. Poor personal hygiene was determined according to the health state of the teeth (Table 1).

**Table 1. State of teeth of the schoolchildren in the Third Belgrade (Pančić) Grammar School**

Dental condition	School year		
	1903/04	1904/05	1906/07
Excellent	40	71	34
Very good	32	60	74
Good	95	79	78
Almost good	96	48	77
Bad	84	84	147
Very bad	–	–	30
Examined	366	342	346
			<b>TOTAL 1054</b>

Dr. Marković classified the data into categories: teeth are excellent, very good, good, almost good, and bad. Ratio between excellent and bad dental condition was 10.92%: 22.92% for 1903/04 and 20.32%: 24.27% for 1904/05. For the school year 1906/07, Dr. Marković introduced

the category of very bad. The results were excellent = 7.53%, bad = 32.49%, very bad = 6.65%. Between excellent and very bad dental condition, there was no statistically significant difference.

Cleanliness of the nails speaks about cleanliness of the hands, and this one about the cleanliness of the body. Similar can be said for the state of the mouth and teeth, although the latter is more complicated. The question is if the dental doctors and dentists, at least in Belgrade, existed at that time. Dental specialists were doctors of general medicine. Dentists were trained in dental (special) schools, modeled according to the US schools, but there was also training "on the basis of trade." A dental technician could become a dentist.

According to the research by Dr. Aleksandar Nedok (one of the authors) of Austrian specialization in dentistry, which was gained in Austro-Hungarian medical schools of that time, it consisted of intensive six-week courses during the holidays.

After passing of the exam, the students gained the right to work as dentists (7, 8). Based on the Registry of the Ministry of Internal Affairs of the Kingdom of Serbia (9), which issued licenses in dentistry, at the beginning of the 20<sup>th</sup> century in Serbia, especially in Belgrade, dental offices and laboratories were opened by many Serbs but also by many foreigners. The first license (1902) was issued for V. Vidmei, a dentist from Switzerland. There was a Polish doctor of medicine Dr. K. K. Stanisevski (1905), a woman dentist Toda Erhejlova Geletridi from Odessa (1906), and so on. From 1901 to 1911, 27 persons received the license, 25 of which in Belgrade. The words *office*, *labs* were not used, but *practice*, *lounge*, *dental technical institute*, *dental medical technical studio* were mostly used, which may lead to a conclusion that, to the public, dentistry was presented as a branch of cosmetics. Therefore, it cannot be said that at that time "dental doctors and dentists did not exist." The number of available dental therapists in Belgrade was quite possibly insufficient since at the time of the wars about 60,000 inhabitants lived in Belgrade. These dental institutions were unknown to parents. "The condition of the teeth and nails of the schoolchildren," said Marković, "is in praise of their parents (especially mothers) who are not ashamed to not take any care of the health and cleanliness of their children." This proves that the parents were also raised and nurtured in negligence...

"There were parents who belonged to the elegant world of upper class of Serbia, and whose children came to school very dirty..." (6).

Therefore, it is not surprising that in the first issue of the *Svetlost* an article written by Dr. Miloš Đ. Popović was published (10). "More important is to clean mouth and teeth than face," Popović was giving advice and "ordering." "Do not forget to brush your teeth before going to sleep. Who brushes his teeth in the morning only, it is similar to covering the well that a child fell in. In addition to oral hygiene, it is important to visit a dentist several times per year. Dental calculus should be removed from the teeth regularly. Be aware of sweets and soft food. Decayed roots and remains of the tooth must be unconditionally extracted, whether they are painful or not. Young children in the first years of life should eat strong and healthy food (milk, eggs, green vegetables...)..." (6).

It could be noted that mouth examination proposed by Marković, especially the teeth, was not thorough because he did not use mirror and probe. He used spatula only and the time for examination was short.

Schools had neither a special room nor a school clinic, even in the most primitive form. Marković was very often forced to use the director's office, meaning that he was interrupted several times during schoolchildren systematic examination. He had some difficulties with the transfer of devices for anthropometry (scales, devices to measure the height of the body, dynamometers). It is not known upon what, his five, and later six level scales (excellent condition of teeth, very good, good, quite, bad, very bad) were based on. In the already mentioned article, Popović pointed out that the teeth of children in schools, in the civilized countries, were examined by dental doctors. It can be assumed that the condition of teeth in schoolchildren at that time was even worse than it was shown by Marković because, with his way of examination, it was not possible to detect the initial tooth cavity. However, taken as they are, results showed that from 1054 examined schoolchildren, 145 of them or only 13.85% had complete healthy teeth.

Truthful and patriotic, for almost two decades Marković gave effort and strongly believed in science in facts, because everything is possible to measure, but all of that was yelling at deaf ears. His medical reports were first given to the Director of the school where physical examinations were performed, who did their best to moderate, beautify, and polish the results. The relevant ministries, including the Ministry of Defense and the Major Medical Counsel completely ignored Dr. Marković's reports, which actually were not related to teeth condition only. Unfortunately, the upside-down tradition of ignoring medical profession and science is present, in one form or another, even today.

### Conflict of interest

We declare no conflicts of interest.

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